

ATOMIC ENERGY *newsletter*[®]

A SERVICE FOR INDUSTRY BUSINESS ENGINEERING AND RESEARCH
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Dear Sir:

December 11th, 1956

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Bids are now being asked on work for the USAEC at the low power test facility (aircraft nuclear propulsion project area), national reactor testing station, Idaho Falls, Idaho. Plans and specifications (available to interested bidders from the Commission's office in Idaho Falls) call for construction of buildings, and utilities, which include contaminated waste system, etc., with total work estimated at \$1 million. Bidding period will be about five weeks; contract is no. AT(10-1)-872. (Other BIDS ASKED, CONTRACTS AWARDED, p. 2 this LETTER.)

New steam generator (liquid-metal-heated), for sodium or sodium-potassium alloy cooled nuclear reactor applications, is being offered by Griscom-Russell Co., New York. With double-tube construction, and double-tube sheets, the unit has two barriers to separate the liquid metal from the water and steam. By monitoring the space between the tubes and the tube sheets with a gas, any leaks may be rapidly detected. (Griscom-Russell, a subsidiary of General Precision Equipment Corp., New York, developed the unit at its Massillon, Ohio plant. G-R is a long-time producer of heat transfer apparatus and engineering specialties.) (Other PRODUCTS, PROCESSES, INSTRUMENTS, p. 5 this LETTER.)

Heavy water plant of the USAEC at Dana, Ind., has been scheduled to be shut-down, with final closing late next year. One of the two USAEC heavy water plants--other is at Savannah River, S. C.--closing will find U.S. future supplies coming from Savannah River. Experience with Dana plant, built in 1950, enabled engineering improvements to be incorporated into the subsequently-built Savannah River unit, which is generally similar in design, but a lower-cost producer. Both plants are operated under a prime USAEC contract by Du Pont. (Other RESEARCH & PRODUCTION FACILITIES, p. 4 this LETTER.)

Nuclear powered railroad locomotives do not appear economically feasible for use in the U.S., (except in military service), but in fuel-short countries they may have an immediate value, B. G. Gunnell, president of Bush Hill Development Corp., Alexandria, Va., told annual meeting of American Society of Mechanical Engineers last fortnight in New York. He estimated development cost of first nuclear powered locomotive at no less than \$20 million, with cost per 3000-HP unit in mass production at about \$1 million for first 500 locomotives. This compares with present cost of approximately \$300,000 for a two-diesel unit. (Paper presented by Mr. Gunnell, no. 56-A-79, available from ASME, 29 W. 39 St., NYC 18, N.Y.; price 50¢.) (Other BOOKS, PUBLICATIONS, p. 4 this LETTER.)

Holdings of High Voltage Engineering and Combustion Engineering were eliminated last month from portfolio of Science & Nuclear Fund, Phila. The 5-3/4% bonds, with warrants attached, of Northspan Uranium, were added last month to the Fund's holdings. (Despite continuing decline of uranium shares on Toronto and Montreal changes, Northspan common, traded on both Toronto and American boards, continued practically unchanged in the last fortnight.)

ATOMIC ENERGY BUSINESS NEWS...

SECOND NUCLEAR POWER PLANT FOR NEW ENGLAND:- A second nuclear power plant was OK'd last week by directors of New England Power System, the parent organization of the majority of power companies in the six-state New England region. Capacity of the new plant will be 200,000 electrical kw or more, according to system president I. L. Moore. (Yankee Atomic Electric Co., formed by member companies of New England Power System, is building a 134,000 electrical kw nuclear power plant at Rowe, Mass.; this first plant is scheduled for operation in 1960.)

U. S. AND BRITISH COMPANIES IN NUCLEAR MATERIAL PRODUCTION:- The U. S. firm of Great Lakes Carbon Co. has entered into a joint organization with the British firms of C. A. Parsons & Co., Ltd., A. Reyrolle & Co., Ltd., Sir Robert McAlpine & Sons, Ltd., and Clarke Chapman & Co., Ltd., to produce nuclear and commercial grades of graphite. The joint firm, Anglo-Great Lakes Corp., Ltd., will erect plant at Newcastle with initial capacity of 15,000 tons (Brit.) per year. Full production is expected by late 1958.

NEW FOREIGN ORDER OBTAINED BY EASTERN NUCLEAR FIRM:- Nuclear Development Corp. of America, White Plains, N.Y., will do design and development of an engineering test reactor for Centre d'Etudes pour les Applications de l'Energie Nucleaire (CEAN), now engaged in nuclear research at laboratories at Mol, Belgium. CEAN is under joint sponsorship of the Belgian government, industry and universities. Nuclear Development's work on the new reactor will continue through construction and test operation phases, which will be carried out by CEAN and firms in Belgium. (The reactor, of an advanced design, will be the second at the Mol laboratories; now in use there is a 3-megawatt, air-cooled uranium-graphite research reactor completed in May, 1956.)

JAPANESE RESEARCH REACTOR TO BE BUILT BY U.S. & JAPANESE CONCERNS:- AMF Atomics, Inc., New York, in association with the Mitsubishi group of Tokyo, will build a 10 megawatt heavy water type nuclear research reactor for the Japan Atomic Energy Institute, under terms of contract received by AMF from the Institute. The reactor, Japan's largest, will be the "heart" of a nuclear research center planned by the Institute in the village of Tokai, about seventy miles from Tokyo, and will be used mainly for research and training of nuclear engineers and technicians. The Mitsubishi group will manufacture some of the components for the reactor, which will be the eighth to be built by AMF's atomic energy subsidiaries. (A 50 kw water boiler type reactor is now under construction for the Institute by Atomics International, div. of North American Aviation. Lease agreement for the U.S. to provide fuel containing two kilograms of uranium-235 (20% enrichment) for this reactor was signed last fortnight by government representatives of U. S. and Japan in Washington last fortnight. Agreement now goes before the Japanese Diet for approval.

BIDS ASKED, CONTRACTS AWARDED...on nuclear projects...

BIDS ASKED:- Bids are solicited for construction for the USAEC of an actuator facility at the aircraft nuclear propulsion area, national reactor testing station, Idaho Falls, Idaho. For this contract, no. AT(10-1)-885, bids will close Dec. 28, 1956.

CONTRACTS AWARDED:- Ingersoll-Rand Co. has received \$1,300,000 contract to supply the main steam condenser and circulating water pumps for Consolidated Edison Co.'s Indian Point, N.Y., nuclear-fueled electric generating station. (As specified by Con Edison, the two pumps are of the vertical wet pit type, each with capacity of 140,000 gpm. The single pass steam condenser will be the largest on the Con Edison system, with a surface of 212,000 sq. ft.)

Contract for construction of the nuclear fuel element cutting facility, to be used in conjunction with the chemical processing plant and the engineering test reactor critical facility, at the national reactor testing station, Idaho Falls, Idaho, has been awarded on a negotiated basis to H. K. Ferguson Co., San Francisco, Calif., by the USAEC. Work on this contract, no. AT(10-1)-844, totals \$1,551,000. (Ferguson had previously been awarded the design contract for this fuel element cutting facility.)

PEOPLE...in the atomic energy program...

William M. Fechteler, Adm., USN (ret), former chief of naval operations, has been named planning consultant in General Electric Co.'s atomic products division.

Jack L. Schumann has been appointed sales manager of Vitro Engineering, div. of Vitro Corp. of America. He leaves Buell Engineering for this new post.

ATOMIC ENERGY FINANCIAL NEWS...

COMBINED INSTRUMENT FIRMS SHOW EARNINGS GAIN:- Baird Associates-Atomic Instrument Co., manufacturer of nuclear and other scientific instruments, for its first combined year since the two firms merged June 1, 1956, showed earnings of \$165,300 after taxes for the fiscal year ended Sept. 30, 1956, stockholders learned at the annual meeting in Boston last week. This compared with a loss in the previous fiscal year of \$160,674 for Baird Associates, and a smaller loss in the same period for Atomic Instrument. The company is presently operating at the rate of \$6 million in annual sales, with backlog on Oct. 25, 1956 of \$2.2 million, Dr. Walter S. Baird, firm president, told his stockholders. He noted that working capital per share was \$7.66 on Sept. 30, 1956 as compared with \$3.57 a year earlier. (Another manufacturer of electronic and nuclear instrumentation, Victoreen Instrument, had a 2¢ deficit per share for the first six months of 1956, compared with 31¢ earned per share in the same 1955 period. Net sales and revenue for this 1956 period were \$869,016 compared with \$1,334,091 in the like 1955 period.)

FAST TAX WRITE-OFF FOR URANIUM MILL:- Fast tax write off certificate in amount of \$8,127,050 at 80% has been issued by Office of Defense Mobilization to Lucky Mc Uranium Corp. for mill the firm is building in the Gas Hills area southeast of Riverton in Fremont County, Wyo., under USAEC guaranteed purchase contract (this LETTER, 11/27/56, p. 4).

URANIUM FIRMS IN EXPANSION MOVES:- Vitro Corp. of America, New York, diversified nuclear firm, is acquiring Berkshire Chemicals, Inc., New York, which it will operate as a wholly-owned subsidiary. This chemical sales organization will handle sales of two Vitro divisions: Vitro Mfg. Co., Pittsburgh, and Vitro Rare Metals, Canonsburg, Pa., as well as continuing its own jobbing business. Vitro stock worth approximately \$320,000 was paid to Berkshire stockholders in the acquisition....In an acquisition outside its field, Continental Uranium, Inc., has purchased Transit-Mix Concrete Co., Daniels Sand Corp., and Pacific Materials Corp., western building materials firms.

CANADIAN URANIUM MINE TO REQUIRE NEW FINANCING:- An additional \$8 million will be required by Dyno Mines to complete its production program, stockholders were told at the company's annual meeting in Toronto last fortnight. As a step in the financing plans, stockholder approval was obtained for the proposed reorganization which calls for a one-for-four split to Canadian Dyno Mines. R.F. McLellan, president, emphasized good prospects of the firm: indicated tonnage is up, mill capacity is being increased to 1,000 tons per day, and the original length of time the company has been given to fulfill its \$34,880,000 contract with Eldorado Mining & Refining (governmental buying agency for uranium concentrates) has been extended 12-months.

COURT TRIAL OF NUCLEAR FIRM'S SUIT NOW ON:- The \$15 million suit of Nuclear Corp. of America, Inc., against Bohn Aluminum & Brass Corp., started in Circuit Court in Detroit last week. In the suit, Nuclear Corp. seeks to have the assets of Reo Motors, Inc., a Bohn Aluminum subsidiary, restored to it. It also claims damages estimated at \$15 million. (Nuclear Corp. was formed in Aug., 1955, through merger of Reo Holding Corp., with Nuclear Consultants, Inc., St. Louis. Reo Holding was the corporate shell left after physical assets were sold by Reo to Bohn. When the name Reo Holding was changed to Nuclear Corp., listing was then on American Stock Exchange. (Nuclear Corp., whose management had estimated for it sales of \$2 million in 1956, did \$640,000 gross business for the six months to June 30, 1956 in nuclear instruments, consultation and development in the nuclear field, and allied projects.

SEC WAIVER ASKED BY NUCLEAR POWER GROUP:- Power Reactor Development Co., Detroit, has requested an SEC order declaring that it is not a public utility. Hearing on the request has been scheduled by the SEC for Dec. 18th. (PRDC is a non-profit corporation made up of twenty-six utility and industrial firms. It holds a provisional USAEC permit to build a fast breeder nuclear power reactor, for an electrical generating station, at Lagoona Beach, Mich.)

BETTER EARNINGS FOR NUCLEAR MATERIALS FIRM:- Earnings for Brush Beryllium (supplier of materials for nuclear reactor applications) are said to have been in excess of \$200,000 in the first nine months of this year, or 27¢ a share following public offering of 400,000 shares last month. Adjusted for present capitalization, firm earned 16¢ a share for all of 1955.

NEW BOOKS & OTHER PUBLICATIONS...on nuclear subjects...

Atomic Energy for Your Business, by A. Kramish, E. M. Zuckert. Language for the layman showing industrial applications. 269 pages. --David McKay Co., Inc., York 3. (\$3.95).

Radioisotopes & Small Business, by P. G. Read. Business opportunities in the field; revised edition --Small Business Administration, Wash., D.C. (no charge).

Titanium, Zirconium & Other Elements of Growing Industrial Importance. Project No. 247. 123 pages. --Org. for European Economic Co-Operation, Wash. 6, D. C. (\$1.50).

Proceedings of Summer Institute on Legal Problems of Atomic Energy, 1956. A Univ. of Michigan project. --U. of Mich., 743 Legal Res., Law School, Ann Arbor, Mich. (\$2.00)

Facing the Atomic Future, by E. W. Titterton. Sociological, political and other implications of atomic energy. --The Macmillan Co., Ltd., London, Eng. (21s.)

Experimental Power & Test Reactors; TID-4562. --USAEC, Wash., D.C. (no charge).

Photoelectric Emission for Film Dosimetry, by N. Modine, D. T. O'Connor. Work done at U. S. Naval Ordnance Lab., White Oak, Md. --Library of Congress, Wash. 25, D.C. (Microfilm, \$2.70; photostat, \$4.80.)

NUCLEAR POWERED SHIP NEWS...undersea craft...

CHANGES BEING MADE IN SECOND NUCLEAR SUBMARINE:-- Engineering changes are being made in the nuclear powered submarine Sea Wolf, second such craft built in the U. S., and which is first to use liquid-sodium-cooled nuclear powerplant. Changes involve eliminating a steam superheater in which leaks had occurred. The leaks had apparently been caused by the sodium used as heat transfer medium. (The Navy said last month, concerning the Sea Wolf, that the liquid-sodium-cooled nuclear powerplant it uses is the only plant of this type installed or planned for installation in a naval vessel. Further, the Navy stated, the Nautilus -- first nuclear powered submarine -- which uses pressurized water reactor, has the type of plant used in all other nuclear ships which are being built for the Navy. Explaining this, the Navy added that the two types of plants were undertaken simultaneously, and it was not known which type of plant would be the more successful for submarine propulsion.)

RAW MATERIALS...prospecting, mining, marketing...

UNITED STATES:-- Discovery of what it has termed "a substantial body of uranium ore" has been reported by Calumet & Hecla, Inc., non-ferrous metals mining company and fabricator. The firm said the deposit is in the eastern part of the Ambrosia Lake district, about eighteen miles northeast of Grants, N. M. The ore body will be outlined and milling arrangements made, if the find is economically attractive, an official of the company stated.

One of the West's major construction firms, Peter Kiewit Sons' Co., Seattle, Wash., has entered the uranium field. The company has started drilling operations on 48 claims leased from the Gas Hills Uranium & Development Corp.

CANADA:-- After spending close to \$1 million on underground development and exploration, Nesbitt LaBine Uranium Mines have decided to suspend all work at their ABC property in the Beaverlodge district of Saskatchewan. Economic mining is not possible at this location, G. A. LaBine, president, has stated. The company will, however, continue to explore possibilities at its other properties, two of which are in the Beaverlodge area and the other at an undisclosed point.

RESEARCH FACILITIES...for nuclear work...

LABORATORY OBTAINS ACCELERATOR:-- Richmond Laboratories of California Research Corp. (subsidiary of Standard Oil Co. of Calif.) have now acquired a 2 MEV Van de Graaff particle accelerator, from High Voltage Engineering, Cambridge. The machine will be used in research programs dealing with the effects of radiation on petroleum and its products.

PLUTONIUM RECYCLE RESEARCH PROGRAM TO CONTINUE:-- With USAEC allotment of \$700,000 authorized for fiscal year 1957, Hanford Plutonium Works will now continue its plutonium recycle research program. Initiated last July, the program is aimed at developing the technology and demonstrating the feasibility of plutonium as a fuel for thermal, heterogeneous power reactors. General Electric Co., operator of Hanford Works as a prime USAEC contractor, will do the research, development, design and operation work on this PRP under its present contract with the USAEC.

ATOMIC ENERGY PATENT & TRADE-MARK DIGEST...U.S. grants issued...

PATENT GRANTS MADE:- Radioactive source container, comprising capsule for holding radioactive source, radiation-absorbing shield, and associated mechanical apparatus. U. S. Pat. No. 2,772,361 issued Nov. 27, 1956; assigned to United States of America (Secretary of the Navy). (Application date: Dec. 23, 1953.) (Inventor: E. N. Hiestand.)

Remote control anmipulator. U. S. Pat. No. 2,771,199 issued Nov. 20, 1956; assigned to United States of America (USAEC). (Application date: Apr. 12, 1955.) (Inventor: D. G. Jelatis.)

Manufacture of uranium peroxide. U. S. Pat. No. 2,771,338 issued Nov. 20, 1956; assigned to United States of America (USAEC). (Application date: Mar. 15, 1945.) (Inventor: Louis Speigler.)

Recovering uranium from deposits formed on calutrons. U. S. Pat. No. 2,771,339 issued Nov. 20th, 1956; assigned to United States of America (USAEC). (Application date: Sept. 2, 1944.) (Inventor: R. Q. Boyer.)

Method of refining uranium. U. S. Pat. No. 2,771,357 issued Nov. 20, 1956; assigned to United States of America (USAEC). (Application date: July 27, 1944.) (Inventor: Donald Wroughton.)

Identification card, squares of which are impregnated with radioactive material, and which can be "read" only with Geiger counter. U. S. Pat. No. 2,773,196 issued Dec. 4, 1956, to Leonard I. Hall, Rochester, N.Y. (Application date: Feb. 18, 1953.)

TRADE-MARKS ISSUED:- Mark "Universal Atomics" has been granted to Universal Atomics Corp., New York, for apparatus, etc. in class 21, under no. 637,979, dated Dec. 4, 1956.

Marks "Atomics International", without design (no. 638,026), and with design (no. 638,027), have been granted North American Aviation, Inc., Canoga Park, Calif., for scientific appliances, etc., in class 26, under date of Dec. 4, 1956.

Mark "Nuclibadge" has been granted Nuclear Instrument & Chemical Corp., Chicago, Ill., for services the firm renders, in class 100, under no. 638,186, dated Dec. 4, 1956.

NEW PRODUCTS, PROCESSES, INSTRUMENTS...for nuclear work...

PRODUCTS:- Some 16 new carbon-14 labeled compounds are now available from Tracerlab, Inc., Boston, Mass. The firm feels the compounds will be of especial interest to biochemists, pathologists, physiologists, research chemists, and other allied groups.

A special molybdenum disulfide-based varnish, with anti-radioactive properties, for lubricating control mechanisms of nuclear reactors is being offered by Rocol, Ltd., Swinnington, Leeds (England). Trade-named Molytox, the product is in use at the new Calder Hall nuclear power station.

PROCESSES:- A stream-flow measuring process, using radioactive isotopes, has been developed by California Research Corp., and is available, under license, to firms qualified to handle radioactive materials. The method measures the rate of flow of the stream over any distance and is a greatly simplified approach to this problem.

Subcommittee to study the effects of nuclear and high energy radiation on the properties of plastics and electrical insulation has been formed by American Society for Testing Materials, Phila. Chairman is D. S. Ballantine, Brookhaven National Laboratory.

MANUFACTURERS' LITERATURE:- New catalog of Research Specialties Co., Berkeley 7, Calif., manufacturers of nuclear counting accessories, chromatography equipment, etc., is now available.

Nuclear reactor guide defining basic reactor types and classifying them is offered by Minneapolis-Honeywell Regulator Co., Minneapolis.

Sincerely,

The Staff,
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